

**Minutes for Rule 21 Working Group Meeting #72**  
**December 14, 2005**  
**Pacific Gas & Electric**  
**San Francisco, CA**

There were 30 Working Group members in attendance in person or conferenced in by telephone. The next regular meeting of the Working Group is scheduled for Wednesday, January 9, at CEC headquarters in Sacramento.

David Michel, Chair

Aldridge	Pat	SCE	Palomo	Jose	CEC
Blumer	Werner	CPUC/ED	Parks	Ken	SDG&E
Burke	Gerard	FuelCell Energy	Prabhu	Edan	Reflective Ergies
Cook	Bill	SDG&E	Savidge	Dylan	PG&E
Corazza	Marco	SatCon	Sheriff	Nora	CAC/EPUC
Couts	George	SCE	Skillman	Fred	PG&E
Goh	Jeff	PG&E	Smith	Richard	SDG&E
Halloran	James	Solar Turbines	Solt	Chuck	Lindh & Assoc
Hirsch	Harold	PG&E	Torribio	Gerome	SCE
Iammarino	Mike	SDG&E	Tunnichliff	Dan	SCE
Jackson	Jerry	PG&E	Vaziri	Moh	PG&E
Larsen	Eric	RCM Digesters	Walter	Stacy	PG&E
Luke	Robin	RealEnergy	Whitaker	Chuck	BEW Eng
McAuley	Art	PG&E	Wong	Eric	Cummins West
McGinn	Pat	SatCon			

### **Combined Process and Technical Group**

#### **Awards**

PG&E handed out awards for participation to Werner Blumer, Nora Sheriff and Robin Luke. Thanks, Jerry.

#### **Utility DG Activity Reports**

The November reports from SDG&E and SCE were posted before the meeting.

#### **Rule 21 Revisions Advice Letter on Certification**

Werner Blumer brought up an issue by email after the last meeting regarding a date conflict in § F.6. It was agreed that the utilities would use the Advice Letters they were submitting on the certification date conflict to extend the date in F.6 to December 31, 2006. PG&E and SCE have both filed ALs covering both the certification date conflict and the F.6 date. SDG&E had already filed their Advice Letter on the certification, so they will have to file an errata on F.6.

#### **Differences in interconnection for NEM vs Non-NEM**

This was raised by members of the technical committee for discussion before the breakouts. It the question was whether this is strictly a policy issue. The following observations were made:

- Non-NEM will probably require longer review. The increased complexity comes from different generation technologies, and not whether the DGs are NEM or Non-NEM.
- If an NEM system is added to a non-NEM system, are the review fees still exempt?
- Does this issue have a February filing time line? The consensus was that the methodology does and the technical does not.
- Action Item – Chuck Whitaker will form a sub-committee to structure the technical issues. Edan Prabhu will form a sub-committee to structure policy issues.

### **Combined Technology**

Technical Group expressed a desire to have a discussion of Combined Technology with the whole WG. The following is the combined discussion:

Edan provided a brief review of the issues:

- Installation and allocation of the costs.
- Power generation and treatment of the power.

Scenarios

- Non-NEM in place, and NEM added
- NEM in place and Non-NEM added
- Simultaneous installation of NEM and Non-NEM
- New NEM added to existing NEM

Issues: Tariff, Metering and Safety/Reliability

- Metering, export vs non-export, cost allocation, technical review
- Stacking, Proration and “Physical” alternatives
- How do you administer the tariff.
- Does addition of an NEM to an existing system require a Rule 21 application?

Resolutions and Limitations:

- The WG agreed that the rule should that changes in system will trigger Rule 21.
- PG&E said “Technically, any of the combinations can be accomplished”.
  - Combined technologies will be more expensive to study and install.
  - One solution is to install a Reverse Power Relay to prevent unqualified export). This approach may be simple, but will still require review. Werner suggested that the decision on whether to install the Reverse Power Relay or allow incidental export should be made by the Producer.
- In case a third generator (and tariff) is added to 2 existing generation systems, it will be treated similar to adding a generator to one existing generator.
- The Technical Group concluded that, if process issues are resolved, technical can accommodate, possibly with additional requirements. It was therefore okay to resolve the process questions first and then tackle the technical issues involved.
- Robin Luke is concerned about the term “Additional Requirements”. Time and cost of a project can both be in jeopardy.

## **Process Breakout**

### **DG OIR (R.04.03.017), Decision D.05-08-013**

- **Markup model Rule 21**
  - E.2.a – Repeat Pre-parallel Inspections  
Comments on RealEnergy recommendation were received from RCM Digesters, PG&E and SCE. The group agreed to wording on E.2.a. It will be reflected in Draft 7 of the Model Rule which will be posted shortly.
  - G.4 – Dispute Resolution Web Site
    - Comments on RealEnergy recommendation were received from PG&E and SCE. The WG agreed to wording which will also be reflected in Draft 7 of the Model Rule.
  - Table C.1 – Fees and Exemptions  
PG&E expressed concern that the last column showing costs for repeat compliance inspections would have to be revised every time the labor rates are changed, necessitating revision of the tariff. Two suggestions emerged:
    - Footnote the column indicating that the values are based on 2005 labor rates, or
    - Show rates as example only with a note that the costs are subject to change pursuant to PUC cost of service regulations.PG&E indicated they would investigate the alternatives and make a recommendation.
  - C.2.c – The changes related to Cost responsibility for repeat pre-parallel inspections was moved to E.2.a
  - F.3 and F.4 – NGOM  
Four suggested drafts were considered. These included: the wording worked out at Meeting 71, SCE draft, CPUC Energy Div. draft, and CSC/EPUC draft. The group consolidated these into a single draft. Pat Aldridge will provide the markup for incorporation into Draft 7.
  - F.6 (7) – Telemetering:  
The group agreed with the wording in Draft 6.
  - G.2 – Dispute Resolution  
Change G.2.a to read “...review the dispute within 5 business days”.
- **Combined Technologies**
  - Discussed Gerry Torribio’s Physical Principle
  - The PGE spreadsheet discussed at the last meeting has an error in the Physics alternative. Scenario 2 should be 15 KW. Also, with the Physics, there is a question as to whether the basis should be Name plate or Real Time Power Production. Werner also suggests the ratings should be based on Energy, not Power.
  - At the next meeting Gerry Torribio will give a 9 minute presentation on the Physical Principle.

- There was discussion of how to proceed. It was concluded that the process might best be served if the utilities tried to consolidate the options into a single suggestion.

## **Technical Breakout**

Attendees:

<b>Name</b>	<b>Org</b>
David Brown (phone)	SMUD
Gerard Burke (phone)	Fuel Cell Energy
Bill Cook	SDG&E
Jeff Goh	PG&E
Scott Lacy	SCE
Patrick McGinn (phone)	SatCon
Mohammad Vaziri	PG&E
Chuck Whitaker	BEW Engr

### 1) General Business

Next Meeting: January 9. @ Sacramento

Discussed in the combine group what technical issues exist with respect to the “combined technology” issue (really a combined tariff issue—NEM + non-NEM—and may or may not be a combined technology issue). The tech folk in the room generally concluded that the existing Rule 21 language should handle the application of combined technologies in all the various forms we could contemplate—in essence, the addition of any DG to a facility will require an initial review, at a minimum, that any existing DG would be considered in that review, and that any changes necessary to accommodate the new DG that impacts the interconnection of the existing DG would have to be considered. The one question was: are there any issues that would be of concern but that would not be caught by the current IRP/SupRev process? No one was able to think of anything. Also need to make sure that the existing language addresses the fact that adding a new DG to a facility initiates a whole new review process. (This should also be a condition of the interconnection agreement).

### 2) FCE/SatCon Certification Request

Issues raised in initial reviews have been substantially addressed.

11<sup>th</sup> harmonic was high, but SatCon has shown to themselves (and to CSA) that the excess came from the test setup: The rectifier used to provide dc power is itself powered from the same utility line to which the inverter output is tied. The apparently rectifier causes significant 11<sup>th</sup> and 13<sup>th</sup> harmonics (the 13<sup>th</sup> was also high on the inverter, but within the passing limits)

Reviewed the data and the test setup and discussion about the 11<sup>th</sup> harmonics. Seems reasonable that the rectifier caused the problem but would like additional data to support—tests, mentioned in the phone call, done at another facility or at lower power levels. FCE/SatCon will try to locate

additional data. Even getting more data may not be sufficient and additional testing might be necessary.

3) Rule 21 Certification Effective Date

Discussed in combined session—filing is in process

4) T134 Network Interconnection report

Schedule:

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<i>Schedule for Completion of Rule 21 Workgroup Network Interconnection Report</i>		
<b>Date</b>	<b>Action</b>	<b>Who</b>
December 14, 2005	Present and discuss each section	Section Champions
January 9, 2006	All Sections due for compilation into Final Draft	Section Champions
February 1, 2006	Circulate Final Draft to combined group	Whitaker
February 15, 2006	Final comments finally due on Final Draft	All
March 31, 2006	Submit Final Report to CPUC	Whitaker/Prabhu

T134.1 – Basics Whitaker

Added definitions from DUIT report and started a general discussion/introduction.

T134.2 – Identify CA Networks Brown

Dave was not at the meeting but participated part time by phone. He had just received information for Long Beach and was integrating it into the report. Also adding general utility-wide and state-wide data for peak demand and number of customers.

T134.3 – Identify US Stakeholders Whitaker

T134.4 – Other Information Sources Goh

T134.5 – Other Rules & Requirements Vaziri

Added general discussions on known projects, rules, and information sources.

T134.6 –Existing DR on networks Brown

Unchanged since last version.

T134.7 – Problems and Solutions Vaziri

Moh is going to discuss questions at Bill Feero's presentation in Massachusetts on Friday.

T134.8 – Costs Steeley

Bill Steeley was unable to attend but had reported that he had received most but not all of the information that he had been promised by various sources and that he would definitely have something to review at the next meeting.

T134.9 – Proposed Area Network IRP Vaziri

Did not review this section.

5) T138 Implementation of IEEE 1547.1

Did not discuss

6) Further discussion of New Items.

PG&E would like to further discuss the issue of voltage rise outside of Rule 2/ANSI Range A limits on shared secondaries caused by exporting DG where the voltage without the DG is near the Range A limit. Added to Action Item list as T141. Also made unilateral changes to due dates on most action items to take into account the need to complete the Network Report and Section J changes to accommodate 1547.1. This is not meant to preclude any enterprising sole from attacking any of these other action items on their own and brining their results to an earlier meeting. Such behavior is encouraged.

**Assignments**

The following tasks were assigned:

- Pat Aldridge – ASAP, provide the markup of F.3 and F.4 from this meeting.
- Fred Skillman – Develop a suggested alternative for Table C.1
- Chuck Solt – Create Draft 7 of the Model Rule including changes from Meeting 72.
- Jerry Torribio – Prepare for a 9 minute presentation on Physical Principle.
- Utilities – Attempt to consolidate alternatives for Combined Technology into a single recommendation.
- Utilities and others who are interested: Provide draft language on changes to Rule 21 for combined technologies; consider what tariff changes may be needed.
- Chuck Whitaker will form a sub-committee to structure the technical issues regarding the differences in interconnection for NEM vs Non-NEM.
- Edan Prabhu will form a sub-committee to structure policy issues regarding the differences in interconnection for NEM vs Non-NEM.

Submitted by: Chuck Solt

Approved by: Edan Prabhu